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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/766,073	01/28/2004	Dale Alan Heaton	TI-36285 (1962-07700)	2240
23494	7590	11/28/2006	EXAMINER	
TEXAS INSTRUMENTS INCORPORATED			LE, JOHN H	
P O BOX 655474, M/S 3999			ART UNIT	
DALLAS, TX 75265			PAPER NUMBER	
			2863	

DATE MAILED: 11/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/766,073	HEATON ET AL.	
	Examiner	Art Unit	
	John H. Le	2863	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 October 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 24-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 24-26 and 29 is/are rejected.
- 7) ☒ Claim(s) 27 and 28 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01/28/2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election of Group III (Claims 24-29) in Paper mailed on 10/31/2006 **without traverse** is acknowledged. Accordingly, claims 1-23 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03. Applicant has the right to file a divisional application covering the subject matter of the non-elected claims 1-23.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 24, 25, and 29 rejected under 35 U.S.C. 103(a) as obvious over Toner (USP 6,859,208) in view of Hatch et al. (USP 4,629,999).

Regarding claim 24, Toner teaches testing system, comprising: a multiplexer (30, 32, 36); a oscillator (22) coupled to the multiplexer (36) (e.g. Fig.1, Col.5, lines 23-29, Col.; a plurality of dividers (24, 26) coupled to the multiplexer (30, 32, 34); and a PLL (10) coupled to at least one of the plurality of dividers (24, 26).

Toner fails to teach a plurality of oscillators coupled to the multiplexer, wherein the testing system selects among the oscillators by configuring a selector on the multiplexer.

Hatch et al. teach a plurality of oscillators (9.1, 9.2, ..9.N) coupled to the multiplexer (7), wherein the testing system selects among the oscillators by configuring a selector on the multiplexer (e.g. Col.2, lines 60-66).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a plurality of oscillators coupled to the multiplexer, wherein the testing system selects among the oscillators by configuring a selector on the multiplexer as taught by Hatch et al. in the testing system of Toner for the purpose of providing a single phase-locked loop capable of generating a plurality of stable frequency signals by synchronizing the phase of the output frequency signal with the phase of a signal from a reference oscillator (Hatch et al., Col.1, lines 31-46).

Regarding claim 25, Hatch et al. teach wherein the PLL synthesizes an oscillation frequency of the selected oscillator (e.g. Col.1, lines 33-46).

Regarding claim 29, Hatch et al. teach the oscillator is a crystal oscillator (crystal oscillator 3)(e.g. Col.1, lines 63-65).

4. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Toner (USP 6,859,208) in view of Hatch et al. (USP 4,629,999) as applied to claim 24 above, and further in view of West et al. (USP 7,093,177).

Regarding claim 26, the combination of Toner and Hatch et al. a taught supra, discloses the claimed invention except a DUT that receives the synthesized frequency from the PLL and also receives a divided frequency from at least one of the plurality of dividers.

West et al. teach a DUT (340) that receives the synthesized frequency from the PLL (360) (e.g. Fig.3, Col.5, lines 35-44) and also receives a divided frequency from at least one of the plurality of dividers (534)(e.g. Fig.5, Col.7, lines 46-60).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a DUT that receives the synthesized frequency from the PLL and also receives a divided frequency from at least one of the plurality of dividers as taught by West et al. in the testing system of Toner in view of Hatch et al. for the purpose of generating test signals for a device under test (DUT) by providing the master reference signal as input to a phase-locked loop (PLL) and controlling one or more programmable dividers in the PLL to adjust the test clock signal (West et al., Abstract).

Allowable Subject Matter

5. Claims 27-28 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 27, in combination with other limitations of the claims, none of the prior art of record teaches or suggests the combination of a testing system, comprising: a PLL coupled to at least one of the plurality of dividers, wherein the PLL synthesizes an oscillation frequency of the selected oscillator; a DUT that receives the synthesized frequency from the PLL and also receives a divided frequency from at least one of the plurality of dividers; wherein the synthesized frequency received by the DUT

Art Unit: 2863

f.sub.1 and the oscillation frequency of the selected oscillator f.sub.2 are synchronized according to the equation $n.f_1 = m.f_2$, where n and m are integer numbers. It is these limitations as they are claimed in the combination with other limitations of claim, which have not been found, taught or suggested in the prior art of record, that make these claims allowable over the prior art.

Contact Information

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John H. Le whose telephone number is 571 272 2275. The examiner can normally be reached on 9:00 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E. Barlow can be reached on 571 272 2269. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

John H. Le
Patent Examiner-Group 2863
November 26, 2006

BRYAN BUI
PRIMARY EXAMINER

